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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,737	09/19/2003	Andrew Dennis Barton	1-24741	6062
4859	7590	09/09/2004	EXAMINER	
MACMILLAN SOBANSKI & TODD, LLC ONE MARITIME PLAZA FOURTH FLOOR 720 WATER STREET TOLEDO, OH 43604-1619			BEAULIEU, YONEL	
			ART UNIT	PAPER NUMBER
			3661	

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/666,737

Applicant(s)

BARTON ET AL.

Examiner

Yonel Beaulieu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 13-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 and 13 is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 14 and 16 is/are rejected.
- 7) ☒ Claim(s) 4-7, 10, 15, 17-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

Applicant's arguments with respect to claims 1 – 10 and 13 – 19 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 16, "...returned to an acceptable value." (last line) is vague and indefinite. What does Applicant regard as "acceptable?"

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 3, 8, 14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al. (US 5,528,497).

Regarding claim 1, Yamamoto teaches a steering assistance controller for the generation of a compensating torque which assists a vehicle driver in overcoming the

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tendency of a vehicle to oversteer (abstract at least) comprising a steering controller (20; figs. 1-2) adapted to be connected to the vehicle steering system (formed by items 1, 3 – 5; see fig. 1), the controller operative during a steering maneuver (col. 2: 1 – 14 and 25 – 31 at least) to encourage the driver (operator) to steer the vehicle back to a non-oversteering condition through application of the torque that is at least based in part upon the vehicle state information (fig. 3; summary; col. 4: 27 – 40; col. 6: 48 – 63 at least).

Regarding claims 2, 3, 8, 14, and 16, Yamamoto et al. further teaches the vehicle state information is comprised of at least one of estimated vehicle yaw rate (sensed by item 18), lateral acceleration (sensed by item 17), steering wheel angle (sensed by item 15; overall, see figs. 1-2; col. 4: 54 – 67 at least); the lateral acceleration being measured a phase detection device (not explicitly shown) – the phase difference being used for calculation of the magnitude (angle) of the oversteer (col. 5: 31 – col. 6: 7 at least); the oversteering determination being based upon representation of models of the vehicle (col. 8: 1 – 63 at least); applying a pulse input that generates a nudge indicating application of the steering control (col. 1: 30 – 52 at least); the steering being controlled by way of closed loop control (see fig. 3); the controller including logic comprising a threshold (limit) for the activation and deactivation of the steering control (col. 5: 31 – 39; col. 6: 8 – 20; and col. 8: 28 – 35 at least).

Allowable Subject Matter

Claims 9 and 13 are allowable.

Claims 4 - 7, 10, 15, and 17 - 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. A statement of reasons supporting the allowable subject matter will be provided in response to this Office action.

The prior art of record fail to teach a steering assistance system for a vehicle comprising, among other limitations, a controller that derives an estimation of the tendency of the vehicle, that produces a negative yaw rate error which is used to generate a proportional signal indicative of oversteer magnitude based upon measurement of a phase detection device when a pair of acceleration measurements from a first sensor placed in the front axle and a second sensor placed in the rear axle of the vehicle, wherein the vehicle oversteer magnitude is provided with a difference in dynamics between two models being achieved by altering the tire cornering stiffness in the models, reducing the front tire stiffness in one model creating an understeering vehicle and reducing the rear tire stiffness in the other model creating an oversteering vehicle – the controller further including comparators which calculate error between the measured lateral acceleration and estimated lateral acceleration at that axle for each model, based upon:

$$\lambda_f = \{A_{fm} - A_{fu}\} - \{A_{fm} - A_{fo}\}$$

and

$$\lambda_r = \{A_{rm} - A_{ru}\} - \{A_{rm} - A_{ro}\}$$

where:

A_{fu} is front axle lateral acceleration estimated from understeer model

A_{ru} is rear axle lateral acceleration estimated from understeer model

A_{fo} is front axle lateral acceleration estimated from oversteer model

A_{ro} is rear axle lateral acceleration estimated from oversteer model

A_{fm} is front axle lateral acceleration measured from a sensor

A_{rm} is rear axle lateral acceleration measured from a sensor.

The above system wherein the controller further includes a nudge controller that generates a signal if the vehicle yaw rate error is detected to be greater than a predetermined threshold, this signal being used to trigger a latch, the output of which sets an integrator ramping and saturation of the integrator resetting the latch and ending the nudge.

Conclusion

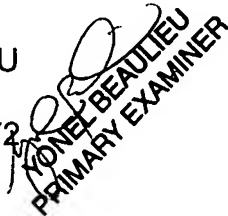
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yonel Beaulieu whose telephone number is (703) 305-4072. The examiner can normally be reached on M-R, from 0900-1600.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas BLACK can be reached on (703) 305-8233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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